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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,305

06/29/2007

Lutz Grimm

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EXAMINER

NGUYEN, MATTHEW VAN

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,305	Applicant(s) GRIMM, LUTZ	
	Examiner MATTHEW V. NGUYEN	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-19 is/are rejected.
- 7) ☒ Claim(s) 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

1. The disclosure should be carefully reviewed and ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welches (U.S. Pat. No. 6,404,655) in view of O'Meara et al. (U.S. Pat. No. 6,208,540).

With regard to claims 13-19, Welches (i.e., Fig. 2) shows a circuit arrangement comprising: a first driver stage (C1, L1, IGBT1, D7, C3) and a second driver stage (C2, L2, IGBT2, D8, C4), of the first and the second driver stages being activatable by a pulse-width modulated input signal (col. 7, lines 10-13), and at least one of the first and second driver stages being connected to a step-down converter stage (40) so that, when the first driver stage is activated, a first switching element (Q1) of the step-down converter stage activates a low-pass device (50) of the step-down converter stage, and, when the second driver stage is activated, a second switching element (Q2) of the step-down converter stage activates the low-pass device (50) of the step-down converter stage; where each of the first and second driver stages is connected to the buck converter stage (40); wherein each of the first and second switching elements of the step-down converter stage includes at least one transistor (Q1, Q2); wherein a diode (shown as parallel with Q1 and Q2) cooperates with the transistors of the first and

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second switching elements of the step-down converter stage; and wherein the low-pass device of the step-down converter stage includes an inductor (L6) operating in pulsating operation.

Welches does not disclose an output signal being a direct-current (DC) voltage (it is noted that the output signal in Welches is an alternating-current (AC) voltage).

O'Meara et al. shows a power supply device (i.e., Fig. 1) in which the output signal is a DC voltage (OUT 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the output signal being a DC voltage as shown by O'Meara et al. into the circuit arrangement of Welches for the purpose of giving the device an ability to provide power to a DC load.

3. Claims 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of prior art of record taken alone or in combination shows the first switching element includes a PNP transistor and the second switching element includes an NPN transistor, a base of the PNP transistor of the first switching element is connected to the first driver stage and another base of the NPN transistor of the second switching element is connected to the second driver stage, a collector of the PNP transistor of the first switching element is connected to another collector of the NPN transistor of the second switching device, and an emitter of the PNP transistor of the first switching

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element being connected to a positive supply voltage terminal and another emitter of the NPN transistor of the second switching element being connected to a negative supply voltage terminal.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fox (U.S. Pat. No. 4,404,473) and Anghel et al. (U.S. Pat. No. 7,122,994) shows power supply devices each of which provides power for aircraft engine controllers.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW V. NGUYEN whose telephone number is (571)272-2081. The examiner can normally be reached on 8 HOURS M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AKM ULLAH can be reached on (571)272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/MATTHEW V NGUYEN/
Primary Examiner, Art Unit 2838